

1. Product and Company Identification

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Product Name Ammonia Aqueous
Part Number RXSOL-60-6608-010

Company Details:

RX MARINE INTERNATIONAL
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2. Composition / Information on ingredients

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Chemical Name	Cas No	EC No	Whight	Formula
Ammonia solution 25% for analysis EMSURE® ISO,Reag. Ph Eur	1336-21-6	215-647-6	>= 25 - < 30 %	NH ₄ OH

3. Hazards Identification

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Signal Word	Danger
Hazard Statements	H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	P261 Avoid breathing mist or vapors. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Classification of the substance or mixture	Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.
Supplemental Hazard Statements	None
Other hazards	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

4. First Aid Measures

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General advice	First aiders need to protect themselves.
If inhaled	After inhalation fresh air. Call in physician
Eye Contact	After eye contact rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
Swallowed	After swallowing make victim drink water (two glasses at most), avoid

	vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.
Skin Contact	In case of skin contact Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.
Inhalation	No data available
Ingestion	No data available
Most important symptoms and effects, both acute and delaye	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available

5. Fire-fighting Measures

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Flammability	No data available
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given.
Special hazards arising from the substance or mixture	Nitrogen oxides (NOx) Not combustible. Ammonia solution itself is not flammable, but can form an ignitable ammonia/air-mixture by outgassing. Ambient fire may liberate hazardous vapours. Fire may cause evolution of: nitrogen oxides
Further information	Cool closed containers exposed to fire with water spray. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Hazardous combustion products	No data available
Advice for firefighters	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Protective Equipment	No data available
Specific Hazards Arising from the Chemical	No data available

6. Accidental Release Measures

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Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
Spillage	No data available
Personal Protection	No data available
Environmental Precaution	Do not let product enter drains.
Methods and materials for containment and cleaning	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
Reference to other sections	For disposal see section 13.

7. Handling and Storage

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Advice on protection against fire and explosion	No data available
Incompatible materials	No data available
Hygiene measures	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

Advice on safe handling	Observe label precautions
Conditions for safe storage, including any incompatibilities	No data available
Storage conditions	No metal or light-weight-metal containers. Tightly closed. Recommended storage temperature see product label.
Storage class	Storage class (TRGS 510) 8B Non-combustible, corrosive hazardous materials
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
Advice on general occupational hygiene	No data available

8. Exposure controls and personal protection

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Eye/face protection	Tightly fitting safety goggles
Exposure control	Personal protective equipment
Skin protection	This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: butyl-rubber Minimum layer thickness: 0,7 mm Break through time: 480 min Material tested: Butoject® (KCL 898) This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact
Body Protection	Protective clothing
Respiratory protection	Recommended Filter type Filter type K The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
Control of environmental exposure	Do not let product enter drains.

9. Physical and chemical properties

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Physical state	Liquid
Colour	Colorless
Odour	Stinging
Odor Threshold	Not Applicable
pH	at 20 °C strongly alkaline
Melting Point	-57,5 °C
Boiling Point	37,7 °C at 1.013 hPa
Flash Point	6 °C - closed cup
Evaporation Rate	Not Applicable
Flammability (solid, gas)	No data available
Explosive limits	No Data Available
Upper/lower flammability or explosive limits	Upper explosion limit 33,6 %(V) Lower explosion limit 15,4 %(V)
Autoignition temperature	No data available
Decomposition temperature	No data available
Vapour pressure	483 hPa at 20 °C
Viscosity	No data available
Density	0,903 g/cm ³ at 20 °C
Relative Density	No data available
Specific Gravity	No data available

Partition coefficient	Log Pow -1,38 - (anhydrous substance), (Lit.), Bioaccumulation is not expected.
Explosive properties	No data available
Solubility	at 20 °C soluble
Ignition temperature	No information available.
Particle characteristics	No data available

10. Stability and reactivity

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Reactivity	No data available
Chemical stability	Ammonia solution itself is not flammable, but can form an ignitable ammonia/air-mixture by outgassing.
Possibility of hazardous reactions	Oxidizing agents Mercury Oxygen silver compounds nitrogen trichloride hydrogen peroxide silver antimony hydride Halogens Acids Calcium Chlorine Chlorites auric salts perchlorates sodium hypochlorite mercury compounds halogen oxides Heavy metals Heavy metal salts Acid chlorides Acid anhydrides Risk of ignition or formation of inflammable gases or vapours with: Boranes Millipore- 1.05432 Page 8 of 14 The life science business of Merck operates as MilliporeSigma in the US and Canada Boron Oxides of phosphorus Nitric acid silicon compounds chromium(VI) oxide chromyl chloride Exothermic reaction with: Acetaldehyde Acrolein Barium boron compounds Bromine halogen-halogen compounds hydrogen bromide silane Hydrogen chloride gas halogen compounds dimethylsulfate nitrogen oxides Fluorine Hydrogen fluoride chlorates carbon dioxide Ethylene oxide polymerisable
Conditions to avoid	Heating
Incompatible materials	Aluminum, Lead, Nickel, silver, Zinc, Copper, metal alloys, various metals
Hazardous decomposition products	In the event of fire: see section 5

11. Toxicological information

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Acute toxicity	mucosal irritations, Cough, Shortness of breath, bronchitis, Possible damages:, damage of respiratory tract
Skin corrosion/irritation	Rabbit Severe irritations (29% solution) (RTECS) Dermatitis Necrosis
Serious eye damage/irritation	Eyes - Rabbit Severe irritations (29% solution) (RTECS) Mixture causes serious eye damage. Risk of blindness!
Respiratory or skin sensitization	No data available
Carcinogenicity	No data available
Germ cell mutagenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Additional Information	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Cough Shortness of breath bronchitis gastric pain Bloody vomiting Nausea collapse shock Unconsciousness Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

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Persistence and degradability	No data available
Toxicity to fish	Flow-through test LC50 - Pimephales promelas (fathead minnow) - 0,068 mg/l - 96 h (ECHA) The value is given in analogy to the following

Toxicity to daphnia and other aquatic invertebrates	substance: ammonium sulphate Static test LC50 - Daphnia magna (Water flea) - 101 mg/l - 48 h (ECHA) anhydrous
Toxicity	No data available
Toxicity to bacteria	No data available
Toxicity to algae	No data available
Products Biodegradation	No data available
Mobility in soil	No data available
Results of PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Other adverse effects	Biological effects Harmful effect due to pH shift. Forms toxic and corrosive mixtures with water even if diluted. Discharge into the environment must be avoided. No data available

13. Disposal considerations

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Product	See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.
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14. Transport information

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UN number	ADR/RID:2672 IMDG:2672 IATA:2672
UN proper shipping name	ADR/RID:AMMONIA SOLUTION IMDG:AMMONIA SOLUTION IATA:AMMONIA SOLUTION
Transport hazard class(es)	ADR/RID:8 IMDG:8 IATA:8
Packaging group	ADR/RID:III IMDG:III IATA:III
Environmental hazards	ADR/RID:Yes IMDG:Yes IATA: No
Special precautions for user	Tunnel restriction code (E)
Further information	No data available

15. Regulatory information

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Safety, health and environmental regulations/legislation specific for the substance or mixture	This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
Other regulations	No data available
Chemical Safety Assessment	For this product a chemical safety assessment has been carried out

16. Other information

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Other Information	The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary
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damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages.

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